

TO: Jonas Minton, Kamyar Guivetchi, Paul Dabbs

FROM: Alex Hildebrand, Bill DuBois, Lloyd Fryer, Brent Graham, Joe Lima, Nancy Pitligiano, Mike Wade

DATE: September 23, 2003

RE: California Water Plan Update 2003 Agriculture Industry Comments

The following comments are being submitted for on behalf of agriculture industry representatives on the California Water Plan Update 2003 (Bulletin 160-03) Advisory Committee. These comments are associated with Volume 1 AC Review Draft dated August 29, 2003.

CHAPTER 1

Page 1-2 to 1-3 (Key Points)

- Several of the key points are unsubstantiated. It is not yet clear whether a “balanced portfolio” of strategies is available to meet our future needs, nor that future water supplies are sustainable without reallocations from agriculture or continued groundwater overdraft. It is likely that achieving future water supply sustainability will require actions that are not considered “balanced” by some stakeholders.
- Balanced portfolio in B-160 does not intend to mean increased storage. Increased storage would also lessen the cost of water during dry years. Opponents believe other strategies will provide sufficient supplies, despite the fact that there will be an expected six million more people in the next 16 years. This strategy runs the risk of not having enough, which should be stated.
- References throughout the document to “restoring” the ecosystem should be changed to “improve” or “protect”.
- The studies have not yet been done on scenarios to determine whether future water needs can be met without storage. The key points suggest that the conclusions have been reached prior to the CWP being published.
- The CWP should provide sufficient information to determine whether additional surface storage is needed to meet the state’s future water needs or not. This important topic should not be relegated to a point – counter-point discussion (i.e., “advocates believe... and opponents believe...”). It is disingenuous to admit that “the environment and some agricultural areas do not have full supplies” without providing specific key points on how the shortages will be met.
- A key point should be added that identifies whether the state has enough water in dry years, and if not, how much the shortage is. This section, as it is written, leads the reader to believe that ag has extra water, or is inefficient with its water, and that it can be put to better use elsewhere, i.e., “human and other environmental needs.”

Page 1-3 to 1-5 (Overview)

- Nothing in the CWP so far suggests that the priorities mentioned in the opening paragraph can be achieved. It is also not clear whose priorities these are.
- Year 2000 numbers should be referenced to total water available to the state in that year (i.e., 71 MAF).
- The overview section should also describe 1998 and 2001 supplies and demands, so the reader gets the full context of the variability of the state’s hydrology. The text is misleading in only discussing year 2000 and “average years.”
- So far, the CWP does not adequately describe any “unmet environmental needs”, the amount of shortfall for these uses, nor the biological necessity for meeting these needs. Agreement cannot be reached on these supposed needs if they are not provided to the AC.

- In addition to mentioning unmet environmental needs, the CWP should acknowledge that there are also unmet agricultural needs (p 1-4, 1st paragraph).
- The “good news” strategies for meeting the state’s future needs are all so-called soft-path strategies. This strongly suggests a bias on the part of the CWP toward non structural solutions.
- There is only reference to the potential for specific strategies to provide water (i.e., conservation measures) without mention of cost-effectiveness. Neither is there reference to the relative flexibility that options can provide. For example, storage provides more dry-year flexibility for all water uses than transfers does. Agricultural AC members have long been advocating that analyses of which strategies to implement should include relative flexibilities as well as cost-effectiveness. In this time of declining state revenues and deteriorating infrastructure, getting the most bang-for-the-buck over the long haul is of utmost importance. In addressing the challenge of an uncertain water supply future, the CWP should plan on more dry years than usual and more mouths to feed.
- Groundwater overdraft figures should be referenced as occurring during an average year.
- The CWP states that except in multi-year droughts, most urban areas have sufficient supplies to meet existing populations and that in average years some agricultural and environmental needs are not fully met. This is because, unlike on the Colorado River, California cannot store wet year water, making it clear that additional storage is needed.
- How can California meet the food requirements of 16 million more people while reducing usage by 200,000 to 550,000 af?
- What will happen to wildlife that depends on brackish water if significant volumes are “cleaned up” for other uses?
- What is the source of the volume of water identified as coming from transfers?
- Where is the data to support the assertion that farmers have increased crop production per acre foot of water by 50 percent and how will further supposed improvements allowing more “crop per drop” meet any needs other than the expanding population?
- Included in planned sidebar a reference to water groundwater storage as a management strategy. Sidebar chart of needs for 17 million people should include food as a future need.
- Would recycled water that contributes to ecosystem restoration and groundwater be deducted from the present beneficiary’s supply? And who would pay for the recycled supply?
- It is imprudent to use unproven technology, such as demand reduction, for extra supply.
- There is a considerable amount of negativism throughout all the Chapters. Example is Chapter 2-2. The continued paragraph at the top of the page, “degraded the natural environment..”, “resulted in habitat loss...”, “freshwater biodiversity declines..”, “contributed to species loss...”. There is nothing mentioned as to the flood and water supply benefits of water projects. The whole tone of Volume 1 is to degrade the water projects, bemoan the alleged rape and pillage of the environment by the projects and proposes no definitive means of meeting future water needs.
- 1-3, line 5, “restoring” should be deleted.
- 1-3, ¶ 6, year 2000 was not an average year statewide. In the Tulare Lake hydrologic region the 1999-00 water years was below average.
- 1-3, last line, change “needs” to “demands.”
- 1-4 ¶ 1, How is the future urban demand of 2.4 maf determined? Seventeen million additional people would seem to take more than 2.4 maf, which must include agricultural use.
- 1-4, ¶ 2, ag conservation figures are overstated. According to Robert M. Hagan in the 1982 report – “Agricultural Water Conservation in California, With Emphasis on the San Joaquin Valley,” a total of 250,000 af could potentially be saved by reclaiming existing brackish water, however, additional freshwater may then be needed to leach accumulated salts.
- 1-4, ¶ 6, conjunctive use utilizes excess or surplus water to put underground in wet years. Must watch what number is published.
- 1-4, ¶ 5, Do not extrapolate past data to account for future water savings from technology, such as regulated deficit irrigation.

- Over the past 40 years the water needs of many areas are met by large state and federal projects. To be fair, other inter-basin transfer projects should also be mentioned, such as Hetch Hetchy and Commanche Reservoirs.
- Delete the text on page 1-6, paragraphs 3 through 6, and replace it with a paragraph that describes the purpose behind integrated resource approaches.
- Political climate needs to be added to the list of reasons that projects on the scale of the SWP or federal CVP are not foreseeable.
- Provide examples of how California is making better use of resources and provides for improved efficiency and flexibility.
- Give examples of regional efforts in agriculture that help stretch limited supplies.
- 1-5, last 2 ¶, Who is stating that large projects will not be considered in the future? Focusing on meeting future water needs on regions is a fatal flaw. Some regions cannot develop water or don't have water to develop.
- 1-6, ¶ 3, ag water use efficiency has been ongoing for years, not just beginning.
- 1-6, last ¶, There are big risks not being associated with imported water.

Page 1-7 (State's role including improved data and analytical tools)

- Throughout the draft, beginning in this chapter, DWR discusses the need for increased efficiency from both ag and urban users. DWR never even considers that environmental interests (ecosystem restoration, species recovery) should also be expected to become more efficient with their water use. See page 1-7.
- DWR implies that they are 100% efficient. They are not, and should be expected to account for their methods in the same manner as all other water users.
- The State references that it has a major role in ecosystem restoration. Why is providing an adequate, affordable and safe food supply to Californians not included in this section?
- In some cases important water use information is based not on actual data but on assumptions and estimates that are not updated for years at a time. See page 1-7. The public will believe if the regulating agency is saying it, it must be so.

Page 1-8 (Methodology)

- The descriptions under "strategic planning", "living document" and "systemic" don't make sense.
- Do not interpret the last paragraph support from the full AC for the update document. If a stakeholder group strongly disapproves with a DWR recommendation, will that be noted in the Bulletin?

Page 1-11 (Advisory Committee and outreach)

- DWR conducted a survey of people who might use the Water Plan, the results show that "the issues of interests for evaluation include water quality, cost, reliability, and environmental impacts." "Major issues of concerns are water quality, reliability, and land use planning," not the heavy emphasis on ecosystem restoration as depicted in the draft. DWR did not use the term "ecosystem restoration," but rather environmental impacts. Environmental impacts can also mean conversion of ag land to other uses. Because DWR did not use the more specific term of ecosystem restoration, it leads us to believe that is not of major concern.
- On the very next page, (1-12) DWR states that "there is a consensus [among members of the Advisory Committee] that strategies such as increased conservation, conjunctive management, recycling, desalination, water quality protection, and *ecosystem restoration* should be implemented." "Additional surface water storage is the one strategy where there is not consensus."
- Agriculture and the environmental community are not in consensus on ecosystem restoration.
- If the water users polled did not list ecosystem restoration as a major concern, and the document is being prepared to advise those users, should the Draft be so heavily weighted toward ecosystem restoration?

Page 1-12 to 1-13 (Key Recommendations)

- The key recommendations do not adequately address how the state is going to help regions meet their increasing water needs. They need to be strengthened to provide specific recommendations on what the state will do, rather than just thought bubbles.
- A key recommendation should be for the state to protect the SWP's water rights and assets from diminishment.
- Will maximizing regional self-sufficiency mean cutting off Southern California from Northern California water supplies?
- Define what "Ensure environmental justice" means.
- What does the statement "Reinforce the link between land use and water planning" mean?
- 1-12, ¶ 1, There is not consensus on all of the issues stated as having it.
- State clearly that there is no consensus unless storage is listed as a recommendation coming from the agriculture industry.
- DWR lists 14 key recommendations. See page 1-12. Sustaining viable agriculture is not listed, but continuing to restore degraded ecosystems is.

Potential Net Water Benefits by 2030 Table

- A range of costs should be provided for each management strategy, under each confidence category.
- A table should precede this table showing demand increases by confidence level (e.g., population increases under high confidence, increased crop ET due to climate change under low confidence).

CHAPTER 2

Page 2-1 to 2-2 (California – Setting)

- This section is disjointed and should be reorganized for internal consistency.
- No mention is made of the development of inter-basin storage and transfer projects. The state's 1.4 trillion-dollar economy exists largely because our predecessors built the SWP, CVP, CRA, Hetch Hetchy, Commanche and other inter-basin transfer systems. Why is this left out?
- No mention is made of the historic and current groundwater overdraft that has also been an important sustainer of the state's economy, especially in dry years. Why is this left out?
- This section works harder at identifying negative impacts of water supply development than positive impacts. Why?
- This section really fails to provide a historical context for existing statewide water uses and supplies. For instance, the role of Hollywood movies in causing immigration to the state is well documented. It did much more to increase California's population and demands for water projects than the Gold Rush.
- 2-1, ¶ 1, First sentence should note 2030 projections in the first paragraph.
- 2-1, ¶ 2 should begin with "Sufficient and reliable."
- 2-1, ¶ 4, next to last line should include Central California as a beneficiary of water delivery projects.

Page 2-2 (Existing Statewide Water Uses and Supplies)

- See previous comments on Page 1-2 to 1-3.
- Continuation from previous page is negative. It mentions nothing of the positive benefits, such as flood protection and an improved quality of life, derived from water projects.
- "Existing statewide water uses . . .", First sentence, delete "is able" and insert "has the resources" 2nd Sentence, I question the statement that most urban areas have sufficient waters supplies. In the 3rd sentence, just when have the environmental needs not recently been met?

Page 2-4, Left sidebar

- Where is the mention of the Colorado River and its associated agency(ies)?
- Page 2-6 (Constitutional, statutory and common law framework for water users)

- In discussing the constitutional, statutory and common law framework for water uses, DWR states, “the people of California own all the water in the state.” “Water rights provide the right to reasonable and beneficial use of the water, not ownership of the water.” “The interests of the people of California should therefore be considered in the assigning of water rights.” DWR then goes on to discuss the public trust doctrine, stating, “this obligation to future generations recognizes that long-term public interests are superior and prior to private claims.” Implies that if the citizens of California can ignore water rights and simply transfer any or all water they chose to a more “beneficial” use. Is DWR preparing to argue that growing certain crops is not a beneficial use of the water?

Page 2-9 (SWP/CVP)

DWR should state how much water from each project is actually delivered in a typical year.

Page 2-11 (Water Supply Reliability Management)

- Water supply reliability decisions and groundwater overdraft are linked. Until a basin is dewatered, groundwater is a 100% reliable supply. The tradeoff between unreliability of surface supplies and groundwater overdraft should be discussed.
- The questions for California water agencies include: (1) what reliability level does existing and foreseeable resources provide in light of projected water demands within the planning horizon.
- The meaning of “reliability” is in the eye of the beholder. Some other term, such as “adequacy”, should be used throughout the document.
- 2nd full ¶ Are these questions leading to the regional approach?
- 3rd full ¶ Do tree rings provide valid scientific data?
- 4th full ¶ Change 1990’s to 1980’s.

Page 2-12 (Contamination)

- Delete the last sentence on the page.
- 2nd full ¶ Include the full population number, (from 36 million 53 million), not just the expected increase (17 million).
- Last ¶, last sentence, Where is the data to support this?

Page 2-13 (Climate Change)

- 1st ¶, 2nd sentence, change “Recent” to “Some” scientific studies suggest...

Reliability of irrigation water for food productivity

- 2nd ¶, 3rd sentence, change to read, “The decades have produced a continuing reallocation of water from the production of food and fiber to environmental uses.”
- Last ¶ is, once again, all negative.

Page 2-13 (Reliability of irrigation water for food productivity)

- Included in the background section was a single paragraph on the reliability of irrigation water for food productivity. See page 2-13. It has a very negative tone. Degradation of ecosystem received at least six-times the discussion and had a very different tone – victim of physical alterations of the land. It should be stated that, although food and fiber production consumes more water than that which is needed for all other household uses, consumers are the true end users of agricultural water.

Page 2-15 (Constraints on inter-regional deliveries)

- First sentence is opinion but not supportive.

Page 2-15 (Groundwater Overdraft)

- The projected overdraft of 1 to 2 MAF statewide should be referenced as applying to wet and dry years (i.e., 1 MAF (wet year) to 2 MAF (dry year).

Page 2-16 (Inadequate assessment of tribal water needs)

- Last sentence, This Bulletin doesn’t asses tribal water needs. Delete.

Page 2-17 (Insufficient state and federal funding for CalFed Stage 1 implementation)

- 1st ¶, last sentence, if section is retained or if issue is addressed in another section, indicate how much money has been spent through 2003 on CalFed. Don't discuss how much has NOT been spent.

Page 2-17 (Water Pricing)

- This section should be deleted, since water pricing does not present a problem for the state, but for local agencies.
- 3rd sentence Who are the "many people?"
- DWR states that the "government subsidizes the price of water." See page 2-17. The Draft does not explain this statement which might lead to a misinterpretation by the public. What is the definition of a subsidy and to what extent is ag water "subsidized."
- DWR asks, "should the water be priced in an attempt to recover environmental costs or other external costs?"

Page 2-18 (New surface storage)

- This paragraph should be enlarged. More space should be given to a critical aspect of meeting the state's future water supply needs.

Page 2-19, second heading should be changed to read, "Environmental laws and regulations for restricting water deliveries." What is the Agricultural Water Conservation and Management Act of 1992?

CHAPTER 3

Page 3-1 (Planning for an uncertain future)

- First line, change to read "California is attempting" to meet its water needs..." Reflects statement on p 2-2 that the state meets most, but not all, of its water supply needs. Add agriculture as an unmet water need in paragraph 4.
- 4th ¶, Groundwater overdraft can be directly attributed to the reduction of imported water in the San Joaquin Valley and possibly other areas of the state.
- Last ¶, again presents the AC as having reached consensus on the scenarios, which is not the case and should be noted.

Page 3-2 (Water quality concerns)

- Last ¶, ag waivers are not finalized yet. Any reference should be qualified.

Page 3-3 (Water quality cont.)

- Need to reference data supporting USEPA claim that ag runoff is the most serious threat to water quality in the country. Is this nationwide and does it include problems that are not associated with California (Mississippi River)?
- 2nd ¶, It should be noted that being able to detect smaller and smaller concentrations should not imply an increased health risk.
- 3rd ¶, Which opinion surveys indicate the public's demand for higher quality water? Perhaps the public wants "high" quality water, not "higher" than what it is now.

Page 3-9 (Recommendations)

- DWR's water purchase discussion clearly leans toward ecosystem restoration and it is likely that the department will decide that restoration programs have the "greatest need."

Page 3-10 What is optimum use of water and how is it measured?

Page 3-15-17 (Global climate change)

- DWR recommendations on global climate change are too speculative.

Page 3-22 (Current trends)

- Crop acreage, including multi-cropping, would be about 9.50 million acres in 2030. The average statewide irrigated crop acreage from 1994-2000 is about 9.56 million acres.
Seems like an overly optimistic number for 2030. Ignores the following facts:
Not all irrigated crop acreage lends itself to multi-cropping.
Not all crops can be grown in any soil.
Ag is market-driven.
Current UC Davis research (Sokolow) indicates that land conversion in the 1980s and 1990s occurred at a much faster rate.

Page 3-25 (Urbanization)

- The environmental effects of urbanization are discussed but nothing is discussed about the effect on agriculture from urbanization. The loss of farmland should be mitigated to the same extent.

Page 3-26 (What does high efficiency mean?)

- The efficiency of ecosystem restoration, or other environmental programs is absent from this section. Again, this leads to the assumption that only urban and agricultural users need to be efficient with their water use.

CHAPTER 4

DWR gives, as an example of integrated resource planning, “agricultural areas are developing water use efficiency projects that can simultaneously help stretch limited water supplies, reduce loads of contaminants, preserve the agricultural economy and improve aquatic habitat.” See page 4-1.

- It should be noted that not all areas in the state lend themselves to efficiency projects.
- Agriculture should gain some “credit” when efficiency efforts are successful and used to offset areas where it is simply not possible.

“A regional integrated resource plan should include information on how use or consumption of water influences pollution and other environmental impacts.” See page 4-4.

- Any plan should also include effects of environmental uses on other segments.
- Analysis should go both ways. DWR appears very biased in its concerns and strategies.

Environmental evaluation. See page 4-5.

- “. . . the benefits of restoration to water supply reliability and water quality improvements are increasingly evident.” “The environmental evaluation begins with the realization that the environment is everywhere, consisting of the ‘natural’ environment and the environment constructed by people so they can live, work, and produce.”
- Second sentence supports CFBF contention that ag is part of the environment.
- However, in this Draft, when DWR refers to the “environment” the impression is given that it means ecosystem restoration.

Emotion. See page 4-6.

- “Environmental justice issues involve emotion, race, poverty, and power.”
- Agricultural issues can also be very emotional – especially when you are about to lose the farm.

Non-native organisms. See page 4-19.

- Studies show that between 35% and 46% of the endangered and threatened species in California are so due to “invasive” species (IS) predators. Before increasing in-stream flows to assist threatened and endangered species, any plan to do so should include an IS element. Increasing water may simply benefit the IS as well as the salmon. Therefore, more salmon simply get eaten by more predators.

DWR notes that wetland projects remove high loads of nitrogen from wastewater. See page 4-29.

- However, there is a flipside to the purported benefits of wetland projects. Studies are showing high incidence of natural occurring methyl mercury in wetland projects.

Page 4-33 (Sacramento River Hydrologic Region)

- “Urbanization of prime farm land has reduced natural recharge of groundwater basins and has displaced agriculture to less suitable lands that often times require even greater water applications to produce the same crop.” This fact should be repeated in the sections discussing/projecting the water use efficiency of agriculture. Too important to be buried in the middle of Chapter 4.

Page 4-41 (San Joaquin River Region)

- Is it true that agriculture represents 85% of the total water demand for the San Joaquin River Region? What is the source of this data? Doesn’t seem possible with the amount of urbanization taking place.

Page 4-42 San Joaquin Region, Canals

- Releases from Friant Dam to the San Joaquin River are generally limited to those required to satisfy downstream water rights (above Gravelly Ford) and for flood control. In the vicinity of Gravelly Ford, high channel losses occur until groundwater is recharged because the river bed is primarily sand and gravel. There are also substantial exports from the Tuolumne tributary to the Bay area.

Note that ecosystem restoration on the San Joaquin River should be indicated as below Friant Dam.

- DWR discusses groundwater depletion in the region, but refers to ecosystem restoration as a major challenge. See page 4-42. If, as DWR admits, groundwater pumping continues to increase in response to growing urban and ag demands, why isn’t it a major concern?
- DWR spends an entire page blaming agriculture for “major water quality problems.” See page 4-43.
- What will be the state of the water quality if ag is replaced by urbanization?

Page 4-43, San Joaquin River Region, Canals

- Note that CVP Delta exports have greatly reduced spring and summer inflow to the Delta. More recently, spring and fall flow in the main stem of the river has been partially restored by further reducing summer flow.
- Note that water quality from increased salt loads is affected by runoff from wetland areas as well as other stated sources.
- Dissolved oxygen levels occur in the Lower San Joaquin River in the Stockton Deepwater Channel.

Page 4-44, Looking to the Future

- Delete the word “reliability” from the first sentence.
- In discussion regarding FWUA and the NRDC, it was Friant who wanted to continue negotiations.
- Grassland Bypass project usage of water convey waters around the Grassland habitat areas before discharging to the San Joaquin River.
- Need clarification on the phrase, “agricultural uses consistent with the protection of the river’s resources.”

Page 4-45, top of the page

- For example, the goal of the San Joaquin River Management
- Program a ~~CalFed Program~~ is to provide ~~a regional ecosystem wide perspective for critical issues~~ solutions to problems that are compatible among all interests; environmental, water quality,

agriculture, flood control, etc. in the San Joaquin River watershed without the limitations imposed by political boundaries.

Add to the end of the last paragraph: However, unless a sustainable supply of surface water is provided, the magnitude of the overdraft can be expected to increase until it becomes unsustainable.

Page 4-49 (Tulare Lake Hydrologic Region)

- Check stat again on the percentage of water used by agriculture (80%?) Cite source.
- Discussion mentions “inherent inefficiency of the irrigation process...” The tone is negative.

CHAPTER 5

Nowhere is efficiency discussed in ecosystem restoration. Why is this segment not expected to use water as efficiently as possible?

Page 5-1 Resource management strategies

- Include the State in discussion in paragraph 2 on integrated resource planning.
- Page 5-1, paragraph 1 – The last sentence in the paragraph states “...because it is a proven strategy to improve water supply reliability...” Many of the AC members would dispute that ecosystem restoration has improved water supply reliability. **Edit the sentence as follows: “...because it is a proven strategy to improve water supply reliability, and also because it is an important consideration for water managers as they pursue integrated resource management.”**

Page 5, paragraph 2 – This paragraph suggests the passage of Propositions 204, 13 and 50 were primarily because of the desire of the public to improve ecosystem conditions. Proposition 204 was entitled: “Safe, Clean, Reliable Water Supply Act.” Proposition 13 was entitled: “Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act.” Proposition 50 was titled: Water Security, Clean Drinking Water, Coastal And Beach Protection Act.” In fact, these titles do not suggest that ecosystem conditions were the driving force behind the public’s support for the propositions and strike this reader as revisionist history. **Rewrite the paragraph to state the fact that these propositions provided significant funding for ecosystem and water supply projects.**

Page 5-1, paragraph 3 – The last sentence: “Since that time, development and implementation of the CALFED Bay-Delta Program has demonstrated that integrated resource management – improving water supply reliability while simultaneously restoring ecosystems – is far more likely to succeed than pursuit of single purpose projects.” This promise of CALFED is yet to be achieved. While over \$400 million has been spent on ecosystem restoration, not all of that money has actually benefited the ecosystem. A substantial amount of funding has been granted for education and outreach projects and programs. There have also been substantial investments in groundwater storage programs aimed at improving dry year water supplies. However, the main water supply reliability projects of CALFED, such as increasing pumping at the H.O. Banks pumping plant to 8,500 cfs, have yet to be fulfilled. **This paragraph should be rewritten to state that the CALFED Program is intended to improve water supply reliability while simultaneously restoring ecosystems.**

Page 5-2, paragraph 1 – The sentence, “Future water management efforts will face conflict and opposition unless these efforts are accompanied by ecosystem restoration actions that mitigate for project impacts and go well beyond mitigation to contribute to the restoration of ecosystem health” sounds like a threat. Does this mean the State will try to block local projects for which proper environmental documentation has been done that incorporates project mitigation, but doesn’t go beyond it? **This kind of statement has no place in the CWP and it must be deleted.**

Page 5-2, paragraph 2 – This paragraph lays primary responsibility for restoring ecosystems on the backs of “water managers.” In fact, provision of “appropriate water supply, flow rate or flow pattern” for ecosystem restoration often has deleterious impacts on the water managers’ customers (i.e., reoperation of New Melones Reservoir to primarily provide environmental flows under CVPIA has shifted releases from the

Spring to the Fall, resulting in quality degradation in the San Joaquin River in the Fall). **The paragraph should be more balanced in the role of water managers in ecosystem restoration.**

Page 5-2, paragraph 5 – Increases in Delta exports are identified as a contributor to ecosystem declines. **Modify the sentence to read: “increases in Delta exports and upstream diversions.”**

Page 5-3, paragraph 1 – The last sentence points out the impacts of dams on the downstream stretch of rivers. It should also be pointed out that the downstream stretch of rivers often are benefited in terms of sport fisheries, such as trout and bass. Especially in the case of trout, the tailwaters below dams often make it possible to fish year-round, thus increasing public trust and environmental justice values associated with the river. **This should be pointed out, and the paragraph not be salmon specific.**

Page 5-3, paragraph 3 – The sentence: “When the impacts would occur in aquatic ecosystems that are already severely degraded, it may be difficult if not impossible for single purpose projects to avoid endangered species conflicts and nearly impossible to build societal consensus that the project should be implemented,” **is confusing and should be deleted.**

Page 5-3, paragraph 3 – The paragraph further identifies increased exports from the Delta as focusing opposition. Sentences such as this strongly suggest the state’s position on Delta exports vis-à-vis the CWP is to oppose increases. This is contrary to the contractual commitments the state has with its SWP contractors, as well as the South Delta Improvement Program, which DWR is now developing environmental documentation for. **The bias in this paragraph should be removed.**

Page 5-4 (Public trust)

Page 5-4, paragraph 1 – **The sentence: “The result is also a more resource efficient way to implement projects, such as the CALFED Ecosystem Restoration Program.” should be deleted.** It is unclear at the moment whether the CALFED Ecosystem Restoration Program will result in cost effective water supplies.

- While protecting certain resources for the public, it is also important to feed those people.

Page 5-5 Agricultural water use efficiency

- Are water savings based on crop ET and irrecoverable losses or applied water? Discussion should be added describing potential risks associated with regulated deficit irrigation. It should also be noted that improvements in agricultural production is due to increased water use efficiency, not a reduction in the amount of water required to produce a pound of biomass.
- There is a huge void of information on the different crops and acreage that already employ regulated deficit irrigation. There should be a better assessment of the true potential of RDI rather than basing future scenarios on the maximum estimates from Goldhamer.

Agricultural Water Use Efficiency

- Very concerned over reliance on regulated deficit irrigation, estimated by DWR at 1 to 1.5 million-acre feet per year. See page 5-5. Also concerned over implication that agriculture can continue to increase its efficiency at the same rate as in the past. The public will be misled into believing statistics that DWR prints.

Reducing evapotranspiration

Page 5-5, paragraph 1 – **The last sentence on net water savings from RDI must be deleted.**

- If this is going to be discussed for ag, it should be discussed for ecosystem restoration as well. In this section, DWR stated that, increasingly, irrigation districts are reducing system losses by lining canals . . . “ See page 5-6. However, in the ecosystem restoration section, they state, “In agricultural areas, people are working at vegetating canals and ditches . . . to expand the ecological characteristics of their lands.” See page 5-149. Conflicting message.

- Referring to CALFED ROD, DWR state that potential costs of efficient water management practices assumes on-farm efficiency of 85%. Is this an accurate assumption?
- In the benefits section, DWR claims that from an economic point of view, “ecosystem restoration actions may provide a high return on investment.” See page 5-5. That’s a big maybe. Would like to see statistics on how much of the \$75 billion a year California’s recreation and tourism industry generates is from bird watching and hunting. Claim hundreds of millions! I find this questionable. I also question lumping all of hunting revenue into this claim. Misleading. Should be balanced with the cost to California’s due to the “acquisition of land and water.” If we assume it is ag land and water that is being acquired, then there will be a resulting loss of jobs and revenue from crop production, etc.
- “Rarely do we have all the scientific information on a species, much less an ecosystem, to identify an exact course of action that will restore natural communities and processes.” See page 5-7. **No action should be taken with sound science to support it and by which success/failure can be measured.**
- “There is also no reporting system for the outcome of various restoration and management strategies. This is necessary for the more efficient investment of public funds.” See page 5-7. **DWR should not recommend implementing programs with public funds on any restoration or management strategies until success criteria have been established by which to measure success or failure. And yet, DWR recommends incorporating ecosystem restoration as a co-equal objective in water management projects, or will partner with restoration projects.**

Page 5-6, paragraph 1 – **The last sentence, “Even with existing efforts presently underway, there is still a great opportunity for on-farm irrigation and district water delivery system improvements.” should mention at what cost.** Cost effectiveness is a local phenomenon. There may not be “great opportunities” in some regions because additional improvements are not cost-effective without grant funding from the state.

Page 5-6,7 Water management

- Although it is important to note that increasing the efficiency of water application is important for other reasons, the focus of the Water Plan is on the total basinwide water supply needed to provide for water consumptively used or irrecoverably lost in producing an adequate supply of agricultural product.

Page 5-7 Reducing Evapotranspiration **The sentence, “Reducing evapotranspiration (regulated deficit irrigation – see sidebar) must be deleted. And, RDI does not reduce evapotranspiration, it reduces the amount of applied water that satisfies evapotranspiration, resulting in stress. Likewise, the following sentence, “Today, the most promising avenue to reduce evapotranspiration on a large scale appears to be through the reduction of transpiration.” should be deleted.**

- Reference scientific data that indicates a reasonable probability that genetic alteration will significantly reduce the crop ET needed to produce a crop mix similar to that which is grown today.
- In addition to future reductions in Colorado River allocations, California must also reduce its dependence on long-term groundwater overdraft.
- Shifting electric load from on-peak to off-peak is already being done in areas where it makes sense to do so. Delete this suggestion. It is outdated.

Page 5-7, Integrated Resources Planning – This recommendation might be fine if there were another recommendation added which stated that the Department of Fish and Game will incorporate water supply improvements as a co-equal objective in fisheries and game management projects, to achieve a net water supply benefit. In fact, since DWR cannot force its sister state agencies to adopt any recommendation, it is inappropriate for DWR to single itself out as adopting such a sweeping new policy. **This recommendation needs to be seriously rewritten to be more realistic.**

Page 5-8, paragraph 1 – **The last sentence in the paragraph outlining the potential savings associated with regulated deficit irrigation should be deleted**, since it is not a true savings, nor is it a reduction in evapotranspiration.

Page 5-8 Benefits

- Define the nature of savings associated with the Calfed 206,000 to 565,000 estimates for agricultural water use efficiency.

Page 5-8, Funding Uncertainties – There is much uncertainty regarding the entire concept of “user fees” as described in the CALFED ROD. While the legislature may have adopted budget bill text regarding a user fee, the CALFED ROD does not specify that the user fee must be assessed during Stage 1 of CALFED. There is also much room for disagreement over the intended purpose of the user fee, how such fees might be assessed or credited, and how they might be spent. **This recommendation should be rewritten to simply state what the CALFED ROD says regarding the user fee, and should also mention that the recent success of bond propositions is another means of reducing funding uncertainty.**

Page 5-9 Funding

Page 5-9, paragraph 2 – This paragraph, which begins, “While the initiative process has provided state funding ...” strikes the reader as a gripe by DWR staff. Budget and staff cutbacks may have taken a toll, but is probably not a hindrance to agricultural water use efficiency programs.

- Last sentence before Implementation – add sentence that says “However, water sales reduce the available water supply to grow agricultural products.”

Page 5-10 Implementation

Page 5-10, paragraph 2 – This paragraph is based on false premises. The facts about the number of districts that have joined the MOU should be researched and verified. Also, the sentence: “Opportunities exist beyond the implementation of EWMPs that could result in major improvements in water use efficiency as well as new methods and technologies that can be expected to significantly increase conservation potential.” does not have scientific backing behind it. Dr. David Goldhammer and Dr. Richard Howitt have both told the AC that the major benefits of future genomic research will be in increased yields, rather than in reduced evapotranspiration. Hence, the cited sentence is gratuitous. Agricultural representatives on the AC are suspicious of such statements, since they imply that DWR has already made up its mind on certain aspects of the Water Plan.

Page 5-10, paragraph 5 – The research done by Cal Poly Irrigation Training and Research Center is compelling. However, there is no reference as to whether it will be cost-effective to convert another 3.8 million acres to precision irrigation, nor what the natural rate of conversion is. **These are important reference points that should be included.**

- Last paragraph discusses increased production with precision irrigation. It should be noted that increased productivity is likely the result of improved distribution uniformity and not reduced ET.
- Ag Water Management Council language is too negative. It sounds like no one is doing much of anything in terms of ag water use efficiency.

Page 5-11 Measurement, Planning and Evaluation

Paragraph 2 – **The paragraph should be deleted, since it appears to refer to RDI, which is a mischaracterization.**

Page 5-11, paragraph 3 – The sentence, “Without a measurement of water applied, a grower cannot manage water efficiently” should be modified to read, **“Without a measurement of water applied, it is more difficult for a grower to manage water more efficiently.”**

Page 5-11, paragraph 4 – This paragraph is inconsistent with the findings of CALFED’s Water Measurement Panel. This Panel found that nearly all agricultural water deliveries in the state are measured,

and that more accurate forms of measurement than those already in use may not infer additional water management benefits.

- Paragraph 5 mentions summer dry down of alfalfa and should include mention of potential impacts to California's dairy industry, such as reduced forage crop availability and higher feed prices.
- 2nd paragraph, rewrite: More efforts need to be dedicated to researching the potential benefits and detriments of reduced evapotranspiration.

Page 5-11, paragraph 6 – This paragraph mixes too many concepts under the guise of water use efficiency, and betrays a bias on the part of DWR toward meeting the state's future water needs on the backs of agriculture. **It should be deleted.**

Page 5-11, Innovation and Dry-year Considerations – These two paragraphs betray a bias on the part of DWR toward meeting the state's future water needs on the backs of agriculture. **They should be rewritten or deleted.**

Page 5-12 Fund agricultural water use efficiency projects

- Distinguish the difference between on-farm and basinwide water use efficiency.
- In the recommendations section, DWR states, "a wide range of strategies will need to be employed to accomplish the actions including financial incentives, *revisions in state and local codes and standards; and legislative initiatives.*" What are they thinking about changing? Could not find explanation further in this, or any other section of the Draft.

Page 5-13 Expand implementation efforts

General

- Employ urban recycled water for agriculture whenever practicable and where it will not cause soil and groundwater salinity accumulations.

Hardware upgrades

- Eliminate or reduce the losses (spills, seepage and non-beneficial evaporation) from district water distribution systems except where these spills and seepage are replenishing groundwater, or providing habitat.
- Upgrade on-farm irrigation systems to more efficient levels where there will be a basinwide savings in water.

Page 5-13 to 5-15, Recommendations – All references to EWMPs should be deleted, since they are duplicative and unnecessary. Also, the recommendation, "Honor environmental justice policies established by funding agencies and others" does not seem to add to the discussion on WUE. Neither does the recommendation, "Work with tribes and community based organizations to get the word out and assist in the development of proposals."

Page 5-14 Reducing evapotranspiration

The first bullet related to RDI needs to have "reduce evapotranspiration and" deleted from the sentence. The second bullet should be deleted, since implementation will be on the local level. The fourth bullet should be deleted since it is an EWMP.

- Fund research on producing increased yield and higher quality of crops with the same water use through subsurface drip and other on-farm technologies with due regard to the yield per consumptive unit of water.
- Collect, manage and disseminate statewide data on acreage under various irrigation methods, the amount of water applied, crop water use, and the benefits and costs of water use efficiency measures as related to basinwide consumptive use of water.

- DWR recommends that collection of data on acreage under various irrigation methods, the amount of water applied, crop water use, and the benefits and costs of water use efficiency measure. See page 5-14. Ditto for all other users, including ecosystem restoration.

Page 5-15 Educate and Motivate

On page 5-15, the second bullet should have reference to developing new EWMPs deleted, since this is a function of the AWMC. The seventh bullet on summer crop dry down should be deleted.

- Identify and overcome barriers to improved water use efficiency, communicate the benefits, provide incentives, and gain commitment from all involved where the basinwide water savings are significant.

Page 5-15, Prepare for dry years and extraordinary shortages

- Have a comprehensive campaign ready to go for next drought that will not put the future of agriculture in jeopardy.
- Conduct contingency planning for extraordinary short- and longterm shortages.
- Support further research in development of strategies for voluntary alternative land use in drainage impaired lands with due regard for the need to replace agricultural production that is lost by urban sprawl.
- Support further research in summer crop dry-down and explore incentives for farmers and districts to forego summer cut of alfalfa, and other similar programs with due regard for the effect on the social need for agricultural products including dairy products.

Page 5-15 (Regulated deficit irrigation)

- RDI discussion should be moved to a supporting volume.

Page 5-16 Regulated deficit irrigationEnd of third full paragraph, mention that Goldhamer acknowledges that risks are involved with regulated deficit irrigation.

- Page 5-16, paragraph 3 and 4 – These paragraphs on RDI and its potential costs must be deleted.
- 4th paragraph, costs associated with wages for a part time irrigator are seriously understated. Costs, such as insurance, workers compensation, social security and so on need to be included in the calculation.

Page 5-22 Conjunctive Management, Current status

- What is the source of water utilized through conjunctive management? It is water that would have otherwise flowed to the ocean in excess of required outflow?

Page 5-49 (Economic incentives strategy)

- DWR suggests that, “a policy decision could be made to expand costs to be covered to include all external costs such as third party economic costs and unmitigated environmental or cultural costs.” See page 5-49. Easier said than done. Is this a strategy to make water too expensive for most farmers thus freeing up water to flow to ecosystem restoration? What will be “they” be charged? “Rates can differ based on connection size for urban users or an acreage and crop type for agricultural users.” How does this work? Who decides what crop type gets the more or less expensive water charges? DWR should provide explanation of this strategy.

Page 5-76 (Recommendations)

- DWR recommends, “for pollution prevention, such a strategy would build upon urban and agricultural nonpoint source pollution prevention programs . . . “ See page 5-76. However, previously DWR stated that USEPA found (in 2001) that nonpoint source pollution from urban and ag runoff are the primary sources of water pollution in U.S. See page 5-74. Without answers to the following questions, this statement does not really provide the public with relevant information and may even mislead them.
 - Which is the big contributor, urban or ag?
 - Is this true for California?

- By DWR's own admission, more data is needed. See page 5-75. "Only a small portion of California water bodies are regularly monitored and assess for water quality . . . "Cannot prevent pollution until its sources are known. Again, statement above will mislead the public into believing the source is ag runoff, when it may not be.
- DWR should not make recommendations without complete data.

Page 5-151 (Water Transfers)

- In the potential benefits section, DWR claim that about 300,000 acre feet in the Sacramento Valley and 400,000 acre feet in the San Joaquin Valley could be made available through crop idling "without unreasonably affecting the overall economy of the county from which the water would be transferred." See page 5-151.
- What is meant by "unreasonably affecting?"
- Impacts will vary, especially if your county is the county *from* which water is being transferred.
- When water transfers occur, are they usually from ag use to ag use?
- Should they be?

Page 5-88 Potential costs of recycled water

Third sentence – "Uses such as irrigation near the treatment facility will benefit from lower treatment and distribution costs. Irrigation can even benefit from the nutrients in the recycled water by lowering the need for applied fertilizers. Use of this water may cause an accumulation of salt in soils and groundwater."

Page 5-95 CalFed surface storage

- Add text at end of page, "CALFED's storage objectives differ from Water Plan objectives. CALFED does not have responsibility for an adequate water supply to meet all needs. The Water Plan must comply with Water Code 10004.6 which requires that it estimate the water required to meet the state's future needs and identify measures that could provide that supply. This may require more surface storage than is considered by CALFED in order to yield adequate supply."

Page 5-120 Potential benefits

- The section describing the potential water savings by increasing housing density from four units per acre to five units per acre is incorrect. A 2000 sf house would only yield a six percent reduction in landscaped area when going from four to five units per acre. It would require a 4800 sf house to accomplish a 20 percent reduction under the scenario described - not a likely occurrence. You must take into consideration the amount of total landscaped area in an acre of houses, not just the area covered by the additional house. The answer you're looking for is the percentage of landscaped area covered by a house compared to the remaining landscaped area and not compared to the foot print of the other four houses.

CHAPTER 6

Page 6-2, The State Role

- Last paragraph: The Water Plan Update 2003 includes the following state commitments and programs as part of its recommendations. Most of the following programs, while the result of statewide planning efforts and measures, are and will be implemented at the local level: but the state is responsible for ensuring that the overall water supply is adequate to meet all needs, including the water needed to produce the goods and services and agricultural products which the regions cannot produce for themselves.
- Implement actions with funding from Propositions 13, 40, and 50.
- Ensure that the Water Plan complies with statutory requirements including Water Code Section 10004.6.